

REVIEW OF JAPANESE BIRDS.

By LEONHARD STEJNEGER.

III.—RAILS, GALLINULES, AND COOTS.

Only seven species belonging to the family *Rallidae* have hitherto been recorded as found in Japan. It is pretty safe, however, to predict that members of this group will be found among the additions which are sure to be made to the Japanese avifauna. In the following synopsis, therefore, I have included some forms which may be expected to turn up in the southern parts of the empire, but to avoid confusion they are given in brackets.

The habits of the *Rallidae* are skulking and solitary, and the localities they frequent mostly very difficult of access. Hence their presence is often unknown to the inhabitants of the nearest neighborhood, and they belong to the rarest birds in museums, few collections having really good series which are not less necessary in this than in other groups.

The material at my command is, therefore, very scanty, and this fact, in connection with our general imperfect knowledge of these birds, induces me to publish the following remarks in spite of their fragmentary character, hoping that they may be of some use in clearing up many obscure points. By the aid of the synoptical tables it is thought that ornithologists and sportsmen in the field will be enabled to determine the known species, thus being in position to discover at once whether the specimen they may have secured be new to the fauna or not.

It need hardly be added that additional observations and specimens will be very welcome, and due credit given.

SYNOPSIS OF THE JAPANESE GENERA OF THE FAMILY RALLIDÆ.

- a*¹. Base of culmen normal. (RALLEÆ.)
- b*¹. Exposed culmen much shorter than inner toe without claw; hind toe with claw longer than the distance from the tip of the chin feathering to the tip of the bill *Porzana*.
- b*². Exposed culmen much longer than the inner toe with claw; hind toe with claw much shorter than the distance from the tip of the chin feathering to the tip of the bill *Rallus*.
- a*². Culmen at base widened to at least three times the width at nostrils, or into a broad plate which often covers the whole forehead like a bony shield.
- b*¹. Toes without broad scalloped lobes (GALLINULEÆ).
- c*¹. No trace of cutaneous margins along the toes.
- d*¹. Hind toe with claw considerably longer than bill from loreal apex; frontal shield very large, pointed behind, not carinated *Gallinix*
- [*d*². Hind toe with claw considerably shorter than bill from loreal apex; frontal shield very small, truncated behind, and carinated *Amaurornis*.]
- c*². Toes with a narrow cutaneous margin along the sides *Gallinula*.
- b*². Toes with broad scalloped lobes (FULICEÆ) *Fulica*.

PORZANA VIEILL.

- 1816.—*Porzana* VIEILLOT, Analyse, p. 61 (type *R. porzana* L.).
 1816.—*Zapornia* LEACH, Syst. Cat. M. B. Br. Mus., p. 34 (type *Z. minuta* LEACH).
 1817.—*Zaporina* FORSTER, Synopt. Cat. Br. B., p. 59 (emend.).
 1829.—*Phalaridion* KAUP, Entw. Eur. Thierw., p. 173 (types *Gallinula pusilla* et *pygmæa*).
 1845.—*Rallites* PUCHERAN, Rev. Zool., 1845, p. 277 (type *R. pusillus*).
 1846.—*Phalaridium* AGASSIZ, Ind. Univers., p. 283 (emend.).
 1856.—*Coturnicops* BONAPARTE, Compt. Rend., XLIII, p. 599 (type *F. noveboracensis* GM.).
 1856.—*Creciscus* CABANIS, Journ. f. Orn., 1856, p. 428 (type *R. jamaicensis* GM.).
 1856.—*Corethrura* CASSIN, Perry's Jap. Exp., II, p. 229 (*nec* REICHENB., 1849).
 1872.—*Limnobæus* SUNDEVALL, Meth. Nat. Av., p. 130 (type *Gallinula rubiginosa* TEMM.).

SYNOPSIS OF THE JAPANESE SPECIES OF THE GENUS *PORZANA*.

- a*¹ Wings without a large white patch, the rectrices being uniform blackish brown, or with only a few small white spots on the secondaries; axillaries and lining of wing barred or mottled with dark gray and white.
*b*¹ Tibial feathers gray, mottled, or barred with whitish; upper wing coverts without transversal white markings (or the white markings longitudinal, if present).
*c*¹ Back and upper wing coverts brown, with black and white longitudinal markings; outer web of first primary edged with white (*Zapornia*)
P. intermedia.
*c*² Back and upper wing coverts uniform olive brown, without any kind of markings; outer web of first primary dusky (*Limnobæus*) *P. erythrothorax*.
 [*b*² Tibial feathers pure white; upper wing coverts with transverse white bands, or waves of white. *P. paykuli*].
*a*² Wings with a large white patch, the terminal half of the inner secondaries being white; axillaries uniform white; lining of wing for the greater part whitish (*Coturnicops*) *P. undulata*.

Subgenus ZAPORNIA LEACH.

(148) *Porzana intermedia* (HERM.).

Baillon's Crane.

Hime-kuina.

- 1776.—? *Rallus pusillus* [or *minutus*?] PALLAS, Reise Russ. R., III, App. (p. 700).
 1804.—*Rallus intermedius* HERMANN, Observ. Zool., I, p. 198.
 18 . . — *Crex pygmaea* NAUMANN, ubi?—*Porzana p.* BLAKIST. & PRYER, Ibis, 1878, p. 225.—*Iid.*, Tr. As. Soc. Jap., VIII, 1880, p. 202.—*Iid.*, *ibid.*, x, 1882, p. 123.
 1819.—*Rallus bailloni* VIEILLOT, N. Diet. d'Hist. Nat., XXVIII, p. 548.—SEEBOHM, Ibis, 1884, p. 35.—*Gallinula b.* TEMMINCK, Man. d'Orn., 2 ed., IV, p. 440 (1840).—*Porzana b.* BLAKIST., Chrysanth., April, 1883, p.—*Id.*, Amend. List B. Jap., p. 42 (1884).
 1820.—*Gallinula stellaris* TEMMINCK, Man. d'Orn., 2 ed., II, p. 693.
 1826.—? *Rallus minutus* PALLAS, Zoogr. Ross. Asiat., II, p. 155 (*nec* GMEL., 1788).
 1836.—*Crex foljambei* EYTON, Cat. Br. B., p. 46 (*nec* MONT., 1813).

As to the proper systematic name of Baillon's Crane I am in considerable doubt, because I have no access to Pallas's original description of *R. pusillus* or *minutus*, and cannot even find out with certainty which of the two names is used by Pallas on p. 700, vol. iii of his Reise, since both are quoted by different authors. Usually we find quoted *R. pusillus* Pallas, 1776. He himself, however, quotes *minutus*. At any rate

the latter must have been published before 1826 (or 1811), for Hermann, Obs. Zool., I, p. 199, as early as 1804, asks, in speaking of his *Rallus paludosus* (which is *P. parva* ♀): "An *Rallus minutus*, Pallasii?" However, Professor Bogdanow has proved to my satisfaction (Consp. Av. Imp. Ross., I, pp. 54-56) that *pusillus* is not the bird which formerly was so called (now *P. parva* SCOP.). But, on the other hand, I cannot recognize Baillon's Crake in Pallas's description in his Zoographia. Taczanowski's conjecture (Bull. Soc. Zool. France, 1876, p. 260) that Pallas had before him *Porzana undulata* is much less tenable. Altogether I am inclined to reject Pallas's name for the present, and to adopt, at least provisionally, the first name of undoubted pertinency.

Were we to follow the *plurimorum-auctorum*-principle we should be in a very bad dilemma whether to choose *P. bailloni* of Vieillot or *P. pygmaea* of Naumann, for we would be able to cite very long lists of authors in defense of both. But even when applying the rule of priority we meet with some difficulty in regard to these names. Vieillot's was given in 1819; Naumann's is usually quoted as dating from 1838, but he asserts (Naturg. Deutschl., IX, p. 567) that he was the first author to recognize it as a distinct species, and that he described and published it under the above name "more than twenty years ago," consequently before 1818. It is also probable that he is right, for, in 1824, Brehm (Lehrb. Eur. Vög., II, p. 641) quotes "*Gallinula pygmaea* Naum.," and Temminck, in 1820, says that Naumann was the first to distinguish the species, but he does not give any reference. I have, however, been unable to find Naumann's original publication.

Fortunately there is an older name, the pertinency of which cannot be doubted in the least, for in 1804 Hermann described the bird in unmistakable terms as *Rallus intermedius*. In order to substantiate this assertion I give the following abstracts from his description (Observ. Zool., I, 1804, p. 198):

Supra fuscus, infra cinereus, dorso, crisso, *hypochondriisque nigris cum apice tetrici-cum fuscum albo maculatis.*

Intermedium dixi ob colorem ralli aquatici, rostrum autem ralli porzanae.

Captus fine Aprilis 1782. Argentorati; tum iterum 1789. vere.

Multo minor porzana, licet rostrum aequè longum et crassum eademque forma. Color juguli, pectoris abdominisque cinereus ut in rallio aquatico, sed clarior et magis coerulescens. Hypochondria uti in isto albo striata, quod in crissi usque apicem continuatur. *Dorsi cum aquatico color idem, nisi quod in medio nigrum sit, sparsaque maculas habeat, quæ quoque sunt in tetricibus, nigro irregulariter circumdatas.*

It will be seen that we have here an excellent description of the male of Baillon's Crake. If Pallas's description does not apply to the present bird no reason can be given for rejecting Hermann's name under the existing rules of zoological nomenclature.

Measurements.

U. S. Nat. Mus. No.	Collector and number.	Sex and age.	Locality.	Date.	Wing.	Tail-feathers.	Exposed culmen.	Tarsus.	Middle toe, with claw.
					mm.	mm.	mm.	mm.	mm.
95978	Blakist., 2717.....	jun.	Yokohama .....	.....	83	44	17	30	40
77004	.....	♂ ad.	Philippines? .....	.....	90	46	16	27	34
95220	Saunders, 1243.....	♂ ad.	Valencia, Spain	Nov. 4, 1872	88	43	17	30	38

Subgenus LIMNOBÆNUS SUNDEV.

(147) *Porzana erythrothorax* (TEMM. & SCHL.).

Red-breasted Crake.

Hi-kuina.

1849.—*Gallinula erythrothorax* TEMM. & SCHLEG., Fauna Jap. Av., (p. 121, pl. lxxviii), (nec RADDE, 1863, que *P. mandarina*).—*Coethrura e.* CASSIN. Perry's Jap. Exped., II, p. 229 (1856).—*Porzana e.* SWINHOE, Ibis, 1861, p. 57.—*Id.*, *ibid.*, 1874, p. 163.—BLAKIST., Ibis, 1862, p. 331.—*Id.*, Amend. List B. Jap., p. 13 (1884).—BLAKIST. & PRYER, Ibis, 1878, p. 225.—*Id.*, Tr. As. Soc. Jap., VIII, 1880, p. 202.—*Id.*, *ibid.*, x, 1882, p. 123.

There seems to be the same confusion in regard to *Porzana fusca* and its allies as in the case of *Rallus striatus* (cf. Stejneger, Pr. U. S. Nat. Mus., 1886, pp. 362–364); but, unfortunately, my material is very scanty, so that my conclusions are only to be regarded as provisional.

Porzana fusca (*Rallus fuscus* LINN., S. N., 12 ed., 1766, I, p. 262) was originally based upon a specimen from the Philippines, and Brisson's excellent description (Orn., v, 1760, p. 173) agrees perfectly with a specimen before me (U. S. Nat. Mus. No. 77007) from the same locality. It is a small bird of very saturated coloration, without white chin and throat, as testified by Brisson's description, by my specimen, and by the figure, in Pl. Enlum., pl. 773, which, on the whole, is a tolerably good representation of the bird. The vinous color of the breast pervades the whole under parts, except the flanks, which are like the back, so that the dusky of the abdomen and tibiæ and the black of the under tail-coverts are strongly tinged with vinous.

Of *P. rubiginosa*, which Temminck described from Java (*Gallinula rubiginosa*, Pl. Color., livr. 60, 1825, pl. 357), I have no specimens at hand. Judging from Schlegel's measurements (Mus. P. B. Ralli, 1865, p. 20), however, it is of the same size as the true *P. fusca*, but seems to have a well-marked white chin and throat, and the color of the lower abdomen and under tail-coverts seems to differ in being decidedly olivaceous. The Indian bird (*P. fusca* Jerdon, B. of Ind., III, 1864, p. 724) with the wing $3\frac{3}{4}$ inches (95^{mm}) long, the "lower abdomen, vent, and under tail-coverts dark olivaceous with white bars," and which is "albescent on the chin and throat," probably belongs here.

Schlegel (*tom. cit.*, p. 21) characterizes *P. erythrothorax*, from Japan, as "absolutely similar to *Rallina fusca*, but of a much larger size," and Lord Tweeddale (*Tr. Z. S.*, IX, 1875, p. 230; *Orn. Works*, p. 393) says that it "only differs in being considerably larger." Swinhoe (*P. Z. S.*, 1871, p. 414) states that the "pectoral red does not extend so low down as in *P. fusca*," a character which Lord Tweeddale says is "a sign of immaturity in the South-Asiatic form." Swinhoe's remarks evidently refer to Chinese and Formosa examples, and agree perfectly with two specimens before me, one, a male, from Shanghai (U. S. Nat. Mus. No. 85754), the other, a female, from near Hong-Kong (No. 86135), both obtained by Mr. Jouy; but these birds certainly show no sign of immaturity. The two Japanese specimens before me are certainly also quite adult, and agree exactly with those from China. I consequently consider the fact of the entire abdomen up to the breast being gray, slightly washed with brownish, as a good character of the present form. The colors are less saturated than in the Philippine specimens; chin and throat are distinctly and definitely white, and the under tail-coverts are pure blackish gray barred with white. As will be seen from the subjoined measurements, the Chinese and Japanese birds are considerably larger. The Japanese specimens agree precisely with those from China in regard to coloration, and although the wings in the two specimens in question are a trifle shorter, there can be no general difference in regard to size, for the average length of the wing of seven Hakodadi males, as measured by Captain Blakiston and noted in his MSS., is 115^{mm}, or exactly the same as in the two Chinese specimens. The average total length of the same number of Japanese birds I find to be 236^{mm}. It will be seen that the species is not subject to so great variation in regard to size as is usually reported. It should in this connection be borne in mind that the larger specimens said to have been collected at the Amur by Professor Radde, and which are referred to by Mr. Schlegel and Lord Tweeddale, do not really belong to the present species, but to the widely different *P. paykulli*, as shown by Professor Bogdanow.

Measurements.

1. PORZANA ERYTHROTHORAX.

U. S. Nat. Mus. No.	Collector and number.	Sex and age.	Locality.	Date.	Wing.		Exposed cul. mm.	Tarsus.	Middle toe, with claw.
					mm.	mm.			
85754*	Ferguson	♂ ad.	Shanghai, China ..	May 10, 1881	115	54	22	39	46
86135	Jouy, 198	♂ ad.	Hong Kong, China..	Oct. 30, 1881	115	54	22	36	41
109437	.....	♂ ad.	Tokio, Japan.....	May, 1884 ..	111	51	22	35	42
109438	.....	♀ ad.	.....do ..	May, 1884 ..	113	51	22	36	44

* Total length, 9 inches (229^{mm}). Eyes red.

2. PORZANA FUSCA.

77007	ad.	Philippines	94	51	19	32	36
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[*Porzana paykulli* (Ljungh).]

- 1813.—*Rallus paykulli* LJUNGH, Sv. Vet. Akad. Handl., 1813 (p. 258).—*Rallina p.* HUME, Stray Feathers, VIII, 1879, p. 406.
 1863.—*Crex erythrothorax* RADDE, Reise Süd. Ost-Sib., II (p. 309) (*nec* TEMM. & SCHL.).—*Rallina e.* TACZAN., Bull. Soc. Zool. France, 1876, p. 260.
 1870.—*Porzana mandarina* SWINHOE, Ann. Mag. Nat. Hist., 4th ser., v, p. 173.

This species has been found in China by Swinhoe and David; in Malacca by Hume, and the British Museum is said to possess specimens both from Batavia—whence came the type of *paykulli*—and Malacca. In the north it has been collected in Ussuri and Dauria by the Russian travelers. It is therefore probable that some day it will be found in Japan also.

As to the name, I refer to Hume's paper in "Stray Feathers," quoted above. It is very important, however, that Malacca specimens should be compared with northern ones.

Professor Bogdanow (Consp. Av. Imp. Ross., I, p. 52) states that this species is nearly related to the European *Crex crex* (*Crex pratensis* BECHST.) and refers it to that genus. Having no access to specimens, I have left it in the genus in which it is most generally placed.*

For the same reason I here reproduce the original description by Mr. R. Swinhoe (Ann. Mag. Nat. Hist., 4th ser., v, pp. 173-174):

♂ *ad.*—*Canton River, China; collected by Mr. S. Bligh, in spring.*—Crown, hind neck, and upper parts deep brownish olive, ruddy on the forehead. Throat pure white. Eyebrow, the whole face, neck, and breast to the middle of the belly ferruginous chestnut, mixed on the last with white. Belly, axillaries, and under tail-coverts light black banded with white; tibial feathers pure white. Quills and tail olive-brown, the outer feathers of the former with its outer web white; feathers of the wing-coverts marked with narrow waves of white with brown lower edgings. Bill olive-green, yellow at tip of lower mandible. Irides light brownish crimson. Legs ochreous yellow tinged with green; claws brown.

Length about 9 inches [229^{mm}]; wing 5.1 [130^{mm}]; tail 2.4 [61^{mm}] of eight soft slightly graduated feathers; bill to gape 1.2 [30^{mm}], to forehead .9 [23^{mm}], depth at base .35 [9^{mm}]; bare part of tibia .5 [13^{mm}]; tarse 1.6 [41^{mm}]; middle toe 1.6 [41^{mm}], its claw .3 [8^{mm}].

Later on Mr. Swinhoe himself obtained several fresh specimens at Chefoo during May and June, of which he gives the following description (Ibis, 1875, p. 136):

Adult male.—Bill bluish gray, blackish on culmen and about tip, pea-green about base; inside of mouth flesh-color; iris crimson, eyelid red; legs and toes salmon-color, brownish on under surface of tarse, on the toes and on their soles. Tibia bare for .8 inch [20^{mm}]; tarsi 1.6 [41^{mm}]; middle toe and claw 1.75 [44^{mm}]; bill in front 1 [25.4^{mm}], to gape 1.12 [28^{mm}], depth at base .48 [12^{mm}]. Total length 9.25 [235^{mm}]; wing 5 [127^{mm}], .5 [13^{mm}] longer than tertiaries, .8 [20^{mm}] from tip of tail; first quill 1 in. [25.4^{mm}] shorter than the second and third, which are equal and longest; tail 2 [51^{mm}], rounded, often softish feathers, outer rectrix .4 [10^{mm}] the shortest; under tail-coverts .1 [2.5^{mm}] short of tail-tip, upper tail-coverts .8 [20^{mm}] short of same.

* I would remark, however, that it appears from the measurements given by Swinhoe, that the proportions of the two birds are somewhat different. *Crex* has the middle toe with claw shorter than tarsus, while in the present species the tarsus is shorter than the middle toe with claw.

A second male is smaller, has shorter toes, and many more white bands and markings on its lesser wing-coverts. Testes large and swollen. Females and junior males are smaller in their proportions, have white throats and white wavy marks on the upper wing-coverts. In old males the throat is as red as the breast, and the wing-coverts have few white marks. The living birds in the cage uttered suppressed notes sounding like "block, block." On the 4th October I procured a bird of the year, which possibly was bred in our neighborhood.

Immature.—Bill light purplish flesh-color, deep brown on culmen, and greenish on base of both mandibles; inside of mouth pale flesh-color; iris kidney-brown; legs purplish brown, upper parts olive-brown; upper wing-coverts tipped with black and white bars; throat white; sides of neck, breast, and sides of belly cream-buff, the rest whitish, obscurely barred on breast, but deeply and distinctly on belly, flanks, and axillaries, with blackish; tail colored like the back.

Subgenus COTURNICOPS BONAP.

(149) *Porzana undulata* TACZ.

Button Crake.

1868.—*Crex erythrothorax* DYBOWSKI & PARVEX, Journ. f. Orn., 1863, p. 338 (*nee* TEMM. & SCHLEG., 1849, *nee* RADDE. 1863).—*Porzana e.* TACZANOWSKI, Journ. f. Orn., 1873, p. 107.

1870.—*Ortygometra* n. sp. PRZEWALSKI, Putesch. Ussur. (n. 143).

1874.—*Porzana undulata* TACZANOWSKI, Journ. f. Orn., 1874, p. 333 (descript. *ibid.*, 1873, p. 107).

1875.—*Porzana exquisita* SWINHOE, Ibis, 1875, p. 135, pl. iii.—*Id.*, *ibid.*, 1876, p. 335.—BLAKIST. & PRYER, Ibis, 1878, p. 225.—*Id.*, Tr. As. Soc. Jap., †III, 1880, p. 202.—*Id.*, *ibid.*, x, 1882, p. 123.—BLAKIST., Amend. List B. Jap., p. 13, (1884).

The name *P. undulata* was published by Taczanowski a year before Swinhoe's *P. exquisita*. It was not accompanied by a description, it is true, but the appellation referred to the description *previously* given. There was evidently no reason for reprinting the description in connection with the new name, as he expressly quoted the diagnosis already given.

This exquisite little Crake is especially interesting on account of the very close resemblance it bears to a North American species, viz, *P. noveboracensis*, belonging as it does to the same sub-genus, and exhibiting the same peculiarities of coloration.

The present species is confined to Southeastern Siberia (Dauria and Ussuri), Northeastern China, and Japan.

Measurements.

U. S. Nat. Mus. No.	Collector and number.	Sex and age.	Locality.	Date.	Wing.	Tail-feathers.	Exposed culmen.	Tarsus.	Middle toe, with claw.
95979	Blakist., 1846.....	♂ ad.	Yubuts, Yesso.....	Aug. 4, 1875	mm. 76	mm. 29	mm. 12	mm. 24	mm. 29

RALLUS LINN.

1758.—*Rallus* LINN., S. N., 10 ed., I, p. 153 (type *R. aquaticus* L.).

1852.—*Hypotaniidia* REICHENBACH, Syst. Av., p. XXIII (type *Rallus pectoralis* GOULD).

1871.—*Aramus* GRAY, Handb. B., III, p. 58 (part).

The tropical eastern spotted and banded Rails have been separated as an independent genus, *Hypotaniidia*, but I can find no structural characters upon which to establish it. The species included in it form a well marked color group which seems to be quite natural. No *Hypotaniidia* has been found in Japan, but inasmuch as representative forms of the Philippine *R. striatus* are known from China and Formosa, it may not be unreasonable to expect it to turn up somewhere in the southern part of the Japanese Empire. I have therefore given the general characters of the *R. striatus* group without venturing to express any opinion as to what special form may be likely to be found. In regard to the forms already known, I refer to a special paper on *Rallus striatus* and its allies, already published on a previous page of these Proceedings.

Any species of the *R. striatus* group may be easily distinguished from the typical Water Rail as follows:

- a¹ Back without white spots; remiges uniform dusky without white markings
(RALLUS) *R. indicus*.
a² Back speckled densely with white spots; remiges with narrow white cross-bars
(HYPOTENIDIA) [*R. striatus*.*]

(146) *Rallus indicus* BLYTH.

Eastern Water Rail.

Kuina.

1849.—*Rallus aquaticus* TEMM. & SCHLEG., Fauna Jap. Av., (p. 122).—SWINHOE, P. Z. S., 1863, p. 322.—SCHLEG., Mus. P. B., Ralli, p. 10 (1865).—WHITELY, Ibis, 1867, p. 206.—FINSCH, Verh. k. k. Zool.-bot. Ges. Wien, 1872, p. 267.—MARTENS, Preuss. Exp. Ost-As., Zool. Theil, I, p. 371 (1876).

1849.—*Rallus indicus* BLYTH, Journ. As. Soc. Beng., XVIII (p. 820). (nec REICHENB., 1851).—*Id.*, Ibis, 1867, p. 172.—*Id.*, *ibid.*, 1870, p. 176.—SWINHOE, Ibis, 1874, p. 163.—BLAKIST. & PRYER, Ibis, 1878, p. 225.—*Id.*, Tr. As. Soc. Jap., VIII, 1880, p. 202.—*Id.*, *ibid.*, x, 1882, p. 122.—SCULLY, Ibis, 1881, p. 591.—BLAKIST., Chrysanth., 1882, p. 523.—*Id.*, *ibid.*, Jan., 1883, p. 28.—*Id.*, *ibid.*, Feb., 1883, p. —.—*Id.*, Amend. List B. Jap., p. 13 (1884).—JOUY, Pr. U. S. Nat. Mus., VI, 1883, p. 317.

1856.—*Rallus aquaticus* b *japonicus* BONAPARTE, Compt. Rend., 1856, XLIII, p. 593 (*nom. nud.*).

1856.—*Rallus aquaticus* c *indicus* BONAPARTE, Compt. Rend., 1856, XLIII, p. 593.

1878.—? *Rallus japonicus* DRESSER, B. of Eur., VII, p. 261.

Mr. Dresser (l. c.), in recognizing *R. japonicus* as a distinct species, states that he found in the Japanese specimens that "the barring on the abdomen extends quite to the end of the under tail-coverts, there

* See "Description of *Rallus jouyi*, with Remarks on *R. striatus* and *R. gularis*." By Leonhard Stejneger. <Proc. U. S. Nat. Mus., IX, 1886, p. 362.

being no buffy red and no white patch, as in *Rallus aquaticus*," and adds that he had examined several examples. I hardly know how to explain the statement, for, certainly, the four specimens before me from Japan, and the one from Shanghai, China, agree exactly with three birds from Europe (England and Germany) so far as the color of the abdomen is concerned, it being in all of them of a reddish buff, through which the grayish ground-color is more or less visible, but without even an indication of barring, and the anal buffy patch is even more pronounced and more intensive in color than in the European specimens. Mr. Dresser, farther on, says that the Indian form is described as having "the lower abdomen reddish brown as in the European bird, which is not the case with *Rallus japonicus*," and because of the absence of the barring on the lower abdomen he regards the Indian and European birds conspecific and different from the Japanese. Is it possible that there is another form of *Rallus* in Japan, having the abdomen barred? This does not seem quite probable, although Mr. Dresser's description certainly indicates such a possibility. At any rate, it will be well to be on the lookout for this mysterious bird.

While thus the Japanese Water Rails before me agree with their European representatives in the color of the abdomen, there are other characters which clearly separate the two forms. I find the following differences:

(1) In the eastern form the under tail-coverts (*not the crissum which is barred with black in both forms*) are all heavily spotted with black, so as to externally show more black than white, while in *R. aquaticus* proper the under tail-coverts are entirely white, sometimes with a few concealed black spots.

(2) In the eastern birds the dusky color of the lores is deeper, nearly black, extends farther down and behind, forming a distinct subocular streak, and joining a well-defined brown auricular patch slightly mottled with dusky and clearly set off from the surrounding gray of the sides of the head.

(3) This form also has the breast strongly suffused with brown, of which but slight traces are seen in the European bird, and on the flanks and axillaries the white bands appear narrower, and the black spaces between them, consequently, broader.

There is no appreciable difference in size as evidenced by the sub-joined table of measurements.

The specimen from China (No. 85753) agrees so minutely with those from Japan that there can be no doubt as to their identity, and the descriptions of the Indian birds by Blyth and Jerdon indicate a form which has all the features by which the Japanese is distinguishable from the European form. In further corroboration of the correctness of identifying the Japanese birds as *R. indicus* I may remark that Blyth himself referred specimens in the Leyden Museum, from Japan, to the

species described by him (see Ibis, 1870, p. 176). Mr. Scully also compared Japanese, Chinese, and Indian examples, and found them to be *R. indicus* (Ibis, 1881, p. 591).

Measurements of RALLUS INDICUS.

U. S. Nat. Mus. No.	Collector and number.	Sex and age.	Locality.	Date.	Wing.	Tail-feathers.	Exposed culmen.	Tarsus.	Middle toe, with claw.
91505	Jouy, 954.....	♂ ad.	Tokio, Japan.....	Jan. 21, 1883	mm. 125	mm. 53	mm. 39	mm. 40	mm. 45
91481	Jouy, 928.....	♂ ad.	Yokohama, Japan...	Jan. 5, 1883	120	55	39	40	45
91402	Jouy, 880.....	♂ ad.	Matsumoto, Japan..	Dec. 21, 1882	123	54	42	38	48
91405	.....	ad.	"Japan".....	.....	120	.....	37	39	45
85753	Jouy, 71.....	♂	Shanghai, China.....	Apr. —, 1876	130	55	.....	43	.....

Measurements of RALLUS AQUATICUS.

U. S. Nat. Mus. No.	Collector and number.	Sex and age.	Locality.	Date.	Wing.	Tail-feathers.	Exposed culmen.	Tarsus.	Middle toe, with claw.
96528	Blakist., T 205....	♂	Leadenhall Market, England.	Oct. —, —	mm. 123	mm. 61	mm. 40	mm. 42	mm. 50
57041	Schlüter, 1061.....	+♂	Germany.....	.....	121	55	42	.....	.....
69978	Burchard.....	+♂	Rostock, Germany..	.....	118	52	41	.....	.....

GALLICREX BLYTH.

1849.—*Gallixrex* BLYTH, Cat. B. As. Soc. (p. 283) (type *G. cristatus* LATH.).

1852.—*Hypnoides* REICHENBACH, Syst. Av., p. xxiii (type *Gallinula lugubris* HORSEF.).

1854.—*Gallinulopha* BONAPARTE, Ann. Sc. Nat., 4 ser., I, No. 2, p. 150.

This genus bears a considerable resemblance to *Gallinula*, but has much larger and stouter feet, with no trace of a lateral membrane to the toes; the frontal plate is pointed behind and not truncate or rounded as in the Moorhen.

(149½) *Gallixrex cinerea* (GM.).

Water-cock.

1788.—*Fulica cinerea* GMELIN, S. N., I, ii, p. 702.—*Gallixrex c.* HUME, Nest Eggs Ind. B., I, p. 596 (1873).

1790.—*Gallinula cristata* LATHAM, Ind. Orn., II, p. 773.—*Gallixrex c.* BLAKIST. & PRYER, Tr. As. Soc. Jap., x, 1882, p. 123.—BLAKIST., Amend. List B. Jap., p. 42.—SEEBOHM, Ibis, 1884, p. 178.

1817.—*Gallinula plumbea* VIEILLOT, N. Diet. d'Hist. Nat., XII, p. 404.

1822.—*Gallinula lugubris* HORSEFIELD, Tr. Linn. Soc., XIII (p. 195).

1822.—*Gallinula gularis* HORSEFIELD, Tr. Linn. Soc., XIII (p. 195).

1831.—*Gallinula porphyrioides* LESSON, Tr. d'Orn., p. 534.

1831.—*Gallinula nevvia* LESSON, Tr. d'Orn., p. 534 (nec GM., 1788).

1840.—*Rallus rufescens* JERDON, Madras J. L. and Sc., XII (p. 205).

In default of genuine Japanese specimens of the present species I add the following measurements of two Chinese examples :

U. S. Nat. Mus. No.	Collector and number.	Sex and age.	Locality.	Date.	Wing.	Tail-feathers.	Bill from loreal apex.	Tarsus.	Middle toe with claw.	Total length.
					mm.	mm.	mm.	mm.	mm.	mm.
96430	Blak., T 203 ..	ad.	Yangtse R., China	May —, —	187	75	32	68	80	381 ^{mm}
85750	Jouy, 75	jun.	Shanghai, China ..	Oct. 11, 1880	210	76	36	73	84	406 ^{mm*}

* "Total length 16 inches. Eyes yellow."

[**AMAURORNIS REICHB.**]

- 1852.—*Amaurornis* REICHENBACH, Syst. Av., p. xxi (type *Gallinula olivacea* MEYEN).
 1852.—*Erythra* REICHENBACH, Syst. Nat., p. xxi (type *G. phœnicura* LATH.) (nec *Erythrus* WALK., 1829).

(For name and synonymy, compare Salvadori, Atti Acad. Sc. Torino, XIV, 1879, p. 914.)

[**Amaurornis phœnicurus** (PENN.).]

White-breasted Water-hen.

- † 1769.—*Gallinula phœnicurus* PENNANT, Ind. Zool. (p. 10, pl. ix) (fide A. Newton, Stray Feath., VIII, 1879, p. 415).—SWINHOE, Ibis, 1863, p. 427.—*Id.*, *ibid.*, 1870, p. 364.
 1781.—*Rallus phœnicurus* FORSTER, Zool. Ind. (p. 19, pl. ix).
 1783.—*Fulica chinensis* BODDAERT, Tabl. Pl. Enl., p. 54.
 † —.—*Gallinula erythrina* BECHSTEIN, (ubi?).
 1822.—*Gallinula javanica* HORSFIELD, Tr. Linn. Soc., XIII (p. 196).
 1822.—? *Rallus sumatranus* RAFFLES, Tr. Linn. Soc., XIII (p. 328).
 1875.—*Gallinula erythrura* MARTENS, Preuss. Exp. Ost. Asien, Zool., I, p. 371.

The White-breasted Water-hen has a wide range, occurring as it does in India and Ceylon, in the Malayan Peninsula, Sumatra, Java, Borneo, and Celebes; it is also found in the Philippine Islands, South China, Hainan, and Formosa. Its occurrence in some of the southern islands belonging to the Japanese Empire is, therefore, by no means unlikely. In order to facilitate the determination of this easily recognizable bird we add the following description from a Chinese specimen :

♀ ad. (U. S. Nat. Mus. No. 91801. Hong-Kong, Feb. 26, 1882. P. L. Jouy, No. 241).—Upper surface of body, except forehead and sides of breast, dark bluish slate, more or less washed with olive, especially on the interscapulars, becoming more brownish backward, rump and upper tail-coverts being olive brown; forehead, sides of head, including supercilia, throat and breast anteriorly and upper part of abdomen white; the lower part of the latter and tibiæ white washed with cinnamon, sides of belly, crissum, and under tail-coverts light buffy cinnamon; from the ear-coverts downward a broad, somewhat ill-defined black band separates the dark color of the upper parts from the white of the under surface, disappearing on the sides of the breast; axillaries and under wing-coverts slaty black, the latter tipped with white.

Wardlaw Ramsay gives the following description of the naked parts of the fresh bird as quoted by Lord Walden (*Ibis*, 1874, p. 147):

S. Andaman: March 10, April 4, ♀, iris reddish brown, legs greenish yellow, bill pale green, red at base of upper mandible; May 7, ♀.

R. Swinhoe remarks in regard to its occurrence in Formosa (*Ibis*, 1863, p. 427): "These birds were not uncommon about Taiwanfoo in summer, and at Tamsuy I procured several examples in March; but I cannot be sure as to their spending the winter in Formosa. In South China they are, I believe, birds of passage. Their eggs vary in shade of cream ground-color, and are spotted and blotched, in some cases only freckled, with cinnamon-red and light purplish grey. Length 1.65 in. [42^{mm}]; breadth 1.15 [29^{mm}]."

Measurements.

U. S. Nat. Mus. No.	Collector and number.	Sex and age.	Locality.	Date.	Wing.	Tail-feathers.	Bill from lorel apex.	Tarsus.	Middle toe with claw.
91801	Jouy, 241	♀ ad.	Hong-Kong	Feb. 26, 1882	mm. 165	mm. 61	mm. 32	mm. 59	mm. 63

GALLINULA BRISS.

1760.—*Gallinula* BRISSON, *Ornith.*, VI, p. 2 (type *Fulica chloropus* L.).

1801.—*Hydrogallina* LACÉPÈDE, *Mem. de l'Inst.*, III (p. 518).

1830.—*Stagnicola* BREHM, *Isis*, 1830 (p. 992).

(150) ***Gallinula chloropus* (LIN.).**

Moorhen.

Ban.

1758.—*Fulica chloropus* LINN., *S. N.*, 10 ed. I, p. 152.—*Id.*, *S. N.*, 12 ed., I, p. 258 (1766).—TEMMINCK, *Man. d'Orn.*, 2 ed., III, p. liii (1835); IV, p. 411 (1840).—CASSIN, *Perry's Exp. Jap.*, II, p. 245 (1856).—SCHLEGEL, *Mus. P. B. Ralli*, p. 45 (1865).—MARTENS, *Preuss. Exped. Ost. Asien, Zool.* I, p. 107 (1866); p. 372 (1876).—SWINHOE, *Ibis*, 1876, p. 335.—BLAKIST. & PRYER, *Ibis*, 1878, p. 225.—*Id.*, *Tr. As. Soc. Jap.*, VII, 1880, p. 202.—*Id.*, *ibid.*, X, 1882, p. 124.—BLAKIST., *Chrysanth.*, 1882, p. 523.—*Id.*, *Amend. List B. Jap.*, p. 42 (1884).—SEEBOHM, *Ibis*, 1884, p. 178.

1766.—*Fulica fusca* LINN., *S. N.*, 12 ed., I, p. 257.

1831.—*Stagnicola septentrionalis* BREHM, *Handb. Vög. Deutschl.*, p. 704.

1831.—*Stagnicola minor* BREHM, *Handb. Vög. Deutschl.*, p. 706.

Having no Japanese specimens of the Moorhen, I shall express no opinion as to the correctness of referring it to the typical European species. There seem to be some differences, judging from the following quotations:

Temminck (*Man. d'Orn.*, 2 ed., IV, p. 442) says: "The Japanese Moorhen does not differ from that of Europe except by the isabella-color of the lateral under tail-coverts; in our European variety they are white."

To this may be remarked, that while it is true that in European specimens white lateral tail-coverts are the rule, it is by no means without exceptions. I have before me a specimen (U. S. Nat. Mus. No. 96530, obtained in the Leadenhall Market, in October) in which nearly all the feathers in question are strongly tinged with creamy buff. It should, on the other hand, also be noted, that Mr. Blakiston compared the Japanese specimens he collected with this very skin, which does not represent the general style of coloration of the European form so far as this character is concerned.

Schlegel (Mus. P. B. Ralli, p. 47) makes the following remarks, based on a material consisting of two adults, two in not fully developed plumage, and one skeleton: "Specimens from Japan. Absolutely similar to those from Europe; they are conspicuous, however, for a somewhat longer bill. Wing, 6 inches 3 lines [pied de roi; = 169^{mm}] to 6 inches 8 lines [180^{mm}]; tail, 2 inches 7 lines [70^{mm}] to 2 inches 11 lines [79^{mm}]; bill, 14 to 16 lines [32 to 36^{mm}]; width of frontal plate, 3 to 4 lines [6.8 to 9^{mm}]; tarsus, 20 to 22 lines [45 to 50^{mm}]; naked part of tibia 9 lines [20^{mm}]; middle toe, 24 to 26 lines [54 to 59^{mm}]."

The length of bill in European examples he gives as "12 to 13 lines" [27 to 29^{mm}].

In confirmation of the above differences in regard to dimensions, I may add, that in Mr. Blakiston's MSS. I find a remark to the effect that he found "some differences in size." A few measurements are contained in his MSS., which I reproduce as follows:

	Sex.	Locality.	Date.	Total length.	Wing.
Blakist., No. 2299	♂	Hakodadi	Sept. 8, 1877	<i>mm.</i> 308	<i>mm.</i> 155
Blakist., No. 1943 .....	♂	.....do	May 15, 1876	302	156
Blakist., No. 1428 .....	♂	.....do	Sept. 13, 1873	302	159

The British specimen alluded to above measures as follows:

U. S. Nat. Mus. No.	Collector and No.	Sex and age.	Locality.	Date.	Wing.	Tail-feathers.	Bill from loreal apex.	Tarsus.	Middle toe.
96530	Blakist., T 202...	♂ ad.	Leadenhall Market..	Oct. —, —	<i>mm.</i> 168	<i>mm.</i> 64	<i>mm.</i> 26	<i>mm.</i> 52	<i>mm.</i> 68

During the U. S. Exploring Expedition to Japan a number of living Moorhens were presented to Commodore Perry while he was staying at the Liu-Kiu Island, August, 1854. Mr. Cassin (*l. c.*), in commenting on these, quotes as a synonym Blyth's *Gallinula parvifrons*, and remarks that they are "not distinguishable from the common European Gallinule, except that the frontal plate is apparently smaller than is usually seen." A close comparison between southern and northern Japanese specimens is therefore very desirable.

FULICA LINN.

- 1758.—*Fulica* LINN., S. N., 10 ed., I, p. 152 (type *F. atra* L.).
 1852.—*Phalaris* REICHENBACH, Syst. Av., p. xxi (type *F. gigas* EYD. & SOUL.).
 1852.—*Lysca* REICHENBACH, Syst. Av., p. xxi (type *F. ardesiacea* TSCHUDI).
 1852.—*Lupha* REICHENBACH, Syst. Av., p. xxi (type *F. cristata* L.).

(151) *Fulica atra* LINN.

Coot.

O-ban.

- 1758.—*Fulica atra* LINN., S. N., 10 ed., I, p. 152.—*Id.*, S. N., 12 ed., I, p. 257 (1766).—
 TEMMINCK, Man. d'Orn., 2 ed., III, p. liii (1835); IV, p. 444 (1840).—SCHLEGEL,
 Mus. P. B. Ralli, p. 60 (1865).—BLAKIST. & PRYER, Ibis, 1878, p. 225.—*Id.*,
 Tr. As. Soc. Jap., VIII, 1880, p. 202.—*Id.*, *ibid.*, x, 1882, p. 124.—BLAKIST.,
 Amen^d. List B. Jap., p. 42 (1884).—SEEBOHM, Ibis, 1884, p. 178.
 1766.—*Fulica aterrima* LINN., S. N., 12 ed., I, p. 258.
 1769.—*Fulica fuliginosa* SCOPOLI, Ann. I Hist. Nat., p. 104.
 1786.—*Fulica leucoryx* SPARRMANN, Mus. Carlson. (pl. xii).
 1786.—*Fulica athiops* SPARRMANN, Mus. Carlson. (pl. xiii).
 1826.—*Fulica atrata* PALLAS, Zoogr. Ross. As., II, p. 158.
 1826.—*Fulica pullata* PALLAS, Zoogr. Ross. As., II, p. 159.
 1831.—*Fulica platyuros* BREHM, Handb. Vög. Deutschl., p. 711.
 1849.—*Fulica atra japonica* TEMM. & SCHL., Fauna Jap. Av. (p. 120, pl. lxxvii).—
 BLAKIST., Ibis, 1862, p. 331.

Also in this case I have to deplore the lack of Japanese specimens, the more so, since it seems that nobody has had a sufficiently large series for comparison. Schlegel had only two Japanese specimens and Seebohm the same number, while Dresser had none. The question whether the Japanese Coot is to be regarded as a local race is, therefore, still an open one.

I translate Schlegel's remarks on his Japanese specimen (Mus. P. B. Ralli, p. 61) as follows:

"Still very like those from Europe. Wing, 7 inches [190^{mm}] to 7 inches 6 lines [203^{mm}]; tail, 23 to 24 lines [52 to 54^{mm}]; bill, 13½ to 14½ lines [30 to 33^{mm}]; width of frontal plate, 3 to 5 lines [6.8 to 11^{mm}]; tarsus, 23 to 24 lines [52 to 54^{mm}]; naked part of tibia, 7 lines [16^{mm}]; middle toe, 2 inches 8 lines to 2 inches 9 lines [72 to 74^{mm}]."

The bills of 9 European specimens range, according to the same author, between 14½ and 16½ lines [33 and 37^{mm}], consequently the opposite of what takes place in *Gallinula chloropus*.

I add the following measurements from a Chinese specimen:

Measurements.

U. S. Nat. Mus. No.	Collector and No.	Sex and age.	Locality.	Date.	Wing.	Tail-feathers.	Bill from loreal apex.	Tarsus.	Middle toe, with claw.
85755	Compton	♀ ad.	Wen Chow, China . . .	Jan. 6, 1881	mm. 220	mm. 61	mm. 27	mm. 62	mm. 92